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(070) 340 0040  
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Europäisches  
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La Haye  
Division de la  
recherche

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Zeichen/Ref /Réf HRW/42056	Anmeldung Nr /Application No /Demande n° /Patent Nr /Patent No /Brevet n° 99900318.9-2107/JP9900109
Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire TAKARA BIO INC.	

## COMMUNICATION

The European Patent Office herewith transmits the supplementary partial European search report under Rule 46(1) EPC relating to the above-mentioned European patent application.

Copies of the documents cited in the search report are enclosed.

The applicant's attention is drawn to the following:

The search Division informs the applicant that if the European search report is also to cover inventions other than the invention first mentioned in the claims, a further search fee must be paid for each of these inventions, within ONE MONTH after notification of this communication.

If the application has been filed up to 30 June 1999, the search fee in force before 01 July 1999 (EUR 869,--) or the equivalent applicable on the date of payment is payable.

**This applies also to the search fees requested under Rule 46(1) EPC.**

See also OJ EPO 06/1999, 405.

☒ Additional set(s) of copies of the documents cited in the supplementary European search report is (are) enclosed as well.





European Patent  
Office

**SUPPLEMENTARY  
PARTIAL EUROPEAN SEARCH REPORT**  
under Rule 46, paragraph 1 of the European Patent  
Convention

Application Number

EP 99 90 0318

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	GB 2 125 406 A (MITSUITOATSU CHEMICALS) 7 March 1984 (1984-03-07) * abstract; examples 1-9 * * tests 1-8 * ---	1,9	C07C47/263 C07C49/707 C07C45/52 C07C45/59 C07C323/22 C07D473/18 C07D473/34
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-/--			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			C07C A23L A61F
LACK OF UNITY OF INVENTION			
The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:			
see sheet B			



European Patent  
Office

SUPPLEMENTARY  
PARTIAL EUROPEAN SEARCH REPORT

Application Number  
EP 99 90 0318

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P,X	WO 98 13328 A (ENOKI TATSUJI ;KOYAMA NOBUTO (JP); WU HUA KANG (JP); IKAI KATSUSHI) 2 April 1998 (1998-04-02) -& EP 0 941 981 A (ENOKI TATSUJI ;KOYAMA NOBUTO (JP); WU HUA KANG (JP); IKAI KATSUSHI) 15 September 1999 (1999-09-15) * claim 32 *	14,15	
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ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

EP 99 90 0313

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EPO file on the application. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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			EP 0888776 A1	07-01-1999
			WO 9733593 A1	13-09-1997
			US 6482806 B1	19-11-2002



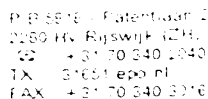
The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1 to 10, 14 to 15 and Claims 11 to 13 in part

methods for the manufacture of substance(s) having apoptosis-inducing ability by heating pentose/pentose derivative(s) or compounds comprising pentose/pentose derivative(s); food/beverage comprising said substance(s); compounds/pharmaceutical agents comprising the particular compounds INDIVIDUALLY identified, i.e. named, in present Claims 11/12

2. Claim : 11 to 13 (part)

compounds/pharmaceutical agents comprising a compound represented by markush Formula I as defined in present Claims 11/12



Zweigstelle  
in Den Haag  
Recherchen  
abteilung

Branch at  
The Hague  
Search  
division

Département à  
La Haye  
Division de la  
recherche

PROGRESSOR		TERM:
VISTEM		
TECHNICAL <i>RFE</i>		DATE:
		CHECKED
<i>NES.</i>		<i>L</i>

Datum Date  
01.08.03

Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°  
99900318.9 - -

Applicant/Demandeur Patentinhaber/Propriétaire: **TAKARA BIO INC.**

The European Patent Office herewith transmits

- ☐ the European search report
- ☐ the declaration under Rule 45 EPC
- ☐ the partial European search report under Rule 45 EPC
- ☒ the supplementary European search report concerning the international application under Article 157(2) EPC relating to the above-mentioned European patent application. Copies of the documents cited in the search report are enclosed.

The following specifications given by the applicant have been approved by the Search Division :

- ☐ Abstract ☐ Title ☐ Figure
- ☐ The abstract was modified by the Search Division and the definitive text is attached to this communication.
- ☐ The following information will be published with the abstract: (1) with the Search Division's modification that it better reflect the original findings; (2) the information submitted by the applicant.
- Figure
- ☒ Add the following pages to the document: (1) part of the European patent application.

S. Polenzani





### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claim(s):





The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1 to 10, 14 to 15 and Claims 11 to 13 in part

methods for the manufacture of substance(s) having apoptosis-inducing ability by heating pentose/pentose derivative(s) or compounds comprising pentose/pentose derivative(s); food/beverage comprising said substance(s); compounds/pharmaceutical agents comprising the particular compounds INDIVIDUALLY identified, i.e. named, in present Claims 11/12

2. Claim : 11 to 13 (part)

compounds/pharmaceutical agents comprising a compound represented by markush Formula I as defined in present Claims 11/12

It is considered that there is lack of unity in respect of the present claims (Article 82 EPC) for the following reasons, on the basis of the present application (see e.g. page 1 lines 3 to 8), it appears that the technical problem to be solved by the subject matter of the present claims is "how to provide apoptosis-inducing compounds and related products". The Applicant has partially solved this problem by providing the method of Claim 1 which involves heating a pentose/pentose derivative or compounds comprising a pentose/pentose derivative (hereinafter pentose based compounds) in order to produce particular apoptosis inducing substances, i.e. the compounds INDIVIDUALLY IDENTIFIED in present Claims 11/12.

In contrast, the compounds represented by FORMULA I in Claims 11/12 do NOT result from the method of Claim 1. These latter compounds are said to be produced by reacting one of the products of the method of Claim 1, i.e. 4-hydroxy-2-cyclopenten-1-one, with a further reactant, i.e. an SH containing compound (see the final paragraph on present page 15). It is clear however that 4-hydroxy-2-cyclopenten-1-one is known (see, for example paragraph 2 on present page 37) and has previously been prepared by chemical synthetic methods. Thus, the preparation of the compound 4-hydroxy-2-cyclopenten-1-one itself cannot act as a unifying inventive concept to link (a) the compounds individually identified in present Claims 11/12 with (b) the compounds represented by Formula I in Claims 11/12. These two groups of compounds are different and arise from different production processes with no novel intermediary compound(s). Hence, it is considered that these groups of compounds represent two

It is noted that the Applicant has not provided any evidence to show that there is a technical link between the technical features of the compounds of Formula I and the technical features of the compounds individually identified in present Claims 11/12.



European Patent  
Office

LACK OF UNITY OF INVENTION  
SHEET B

Application Number  
EP 99 90 0318

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

For the above reasons unity of invention cannot be accepted in respect of the present claims.



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	GB 2 125 406 A (MITSUITOATSU CHEMICALS) 7 March 1984 (1984-03-07) * abstract; examples 1-9 * * tests 1-8 * ---	1,9	C07C47/263 C07C49/707 C07C45/52 C07C45/59 C07C323/22 C07D473/18 C07D473/34 A23L1/30 A23L2/00 A61K31/12 A61K31/52
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P,X	WO 98 13328 A (ENOKI TATSUJI ;KOYAMA NOBUTO (JP); WU HUA KANG (JP); IKAI TATSUSHI) 2 April 1998 (1998-04-02) -& EP 0 941 981 A (ENOKI TATSUJI ;KOYAMA NOBUTO (JP); WU HUA KANG (JP); IKAI TATSUSHI) 15 September 1999 (1999-09-15) * claim 32 * ---	14,15	

This supplementary search report is based on the search



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SUPPLEMENTARY  
EUROPEAN SEARCH REPORT

Application Number  
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DOCUMENTS CONSIDERED TO BE RELEVANT			
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			TECHNICAL FIELDS SEARCHED (Int.Cl.6)

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